

Mr. Fletcher,—It is a general rule that when they find the water low in the boiler and turn in the water, that every person runs, who has any knowledge of the danger attached to such an act.

I manufacture boilers, and the best of them will explode. Explosions are caused in a great many cases by carelessness on the part of the engineers and firemen, and also on account of having incompetent men. Quite a number of crown sheets dropped on locomotives are caused by low water. When the sheet gets hot it elongates at the holes, so that there is no support for the radial stays. In some instances where staybolts are nipped, it holds the bolts in place instead of riveting them over. With the nuts on, the bolts cannot pull out, and it gives the engineer and fireman a chance. If they are not too stupid, all they have to do is to throttle the engine, drop their fire, and go sit on the fence until cooled down.

I was always led to believe that water pumped on hot plates was the cause of explosion, and I would say that a man was insane if he pumped cold water on hot plates, and should not have charge of boilers of any description.

Mr. N. MacNicol,—

I noticed an item in the paper regarding care of locomotive boilers. It stated that for a certain period noted 126 boiler explosions happened and out of these there were only 14 on locomotives.

Mr. E. D. Bly,—

Is it possible to put cold water on a boiler, or in other words, is it possible to pump cold water on a red hot crown sheet?

Mr. A. J. Lewkowiez,—

Mr. Wickens' remarks relate mostly to the circular flues. In marine practice we have a great deal of experience with the flues or furnaces coming down. That is caused by a hot circular crown sheet getting soft enough to bulge down, due to local accumulation of grease thereon and insulating plate from the water thereby getting plate very hot and as soon as the grease is burnt off the water gets there and cools it off immediately, and occasionally it cracks. On the flat crown sheet it is not only the plate that elongates and weakens, but the staybolt holes elongate and the staybolt refuses to hold it and it bulges down.

Mr. C. V. Jackson,—

In Mr. Fletcher's remarks he states that when the crown sheet gets hot it elongates, also the holes. In my experience these holes tighten on the bolt, but when the crown sheet gets cool then they commence to contract, and then you have a leaky crown sheet.